

**WHAT IS CLAIMED IS:**

1           1. A method comprising:

2           receiving user authentication information from a mobile terminal via a wireless  
3           communication network to purchase a betting ticket, performing user authentication using the  
4           received authentication information, and transmitting information on results of the user  
5           authentication to the mobile terminal via the wireless communication network;

6           receiving ticket purchase information from the mobile terminal after completion of the user  
7           authentication and selling the betting ticket through communication with a corresponding race  
8           management system according to the ticket purchase information;

9           storing ticket sale information and creating a Short Message Service (SMS) message  
10          indicating ticket sale information after selling the betting ticket; and

11          transmitting the SMS message indicating the ticket sale information to the mobile terminal  
12          via the wireless communication network.

1           2. The method according to claim 1, wherein the wireless communication network is one  
2           of private and public wireless communication networks.

1           3. The method according to claim 1, wherein the mobile terminal is one of a Personal Data  
2           Assistant (PDA), a Personal Communication Service (PCS) terminal, a Digital Cellular Service  
3           (DCS) terminal, a smart phone or an International Mobile Telecommunication (IMT)-2000

4 terminal.

1 4. The method according to claim 1, wherein the creating of the SMS message indicating  
2 the ticket sale information is performed through one of private and public wireless switching  
3 systems.

1 5. The method according to claim 1, wherein the user authentication information includes  
2 at least one of an IDentification (ID) and a password, allocated at a time of registering for a  
3 wireless ticket purchase service, and a bank account number, registered for the wireless ticket  
4 purchase service.

1 6. The method according to claim 1, wherein the ticket purchase information includes at  
2 least one of regional information, race number information, winner determination information,  
3 horse number information and betting amount information.

1 7. A method comprising:  
2 receiving user authentication information from a mobile terminal via a private wireless  
3 communication network to purchase a betting ticket, performing user authentication using the  
4 received authentication information, and transmitting information on results of the user  
5 authentication to the mobile terminal via the private wireless communication network;  
6 receiving ticket purchase information from the mobile terminal via the private wireless

communication network after completion of the user authentication and selling the betting ticket through communication with a corresponding race management system according to the ticket purchase information;

storing ticket sale information and transmitting a request for creation of a SMS message indicating ticket sale information to a private wireless switch after selling the betting ticket; and creating the SMS message indicating the ticket sale information in the private wireless switch in response to the request for the creation of the SMS message indicating ticket sale information, and transmitting the SMS message indicating the ticket sale information to the mobile terminal via the private wireless communication network.

8. A method comprising:

receiving user authentication information from a mobile terminal via a public wireless communication network to purchase a betting ticket, performing user authentication using the received authentication information, and transmitting information on results of the user authentication to the mobile terminal via the public wireless communication network;

receiving ticket purchase information from the mobile terminal via the public wireless communication network after completion of the user authentication and selling the betting ticket through communication with a corresponding race management system according to the ticket purchase information;

storing ticket sale information and transmitting a request for creation of an SMS message indicating ticket sale information to a public wireless switch after the betting ticket is sold; and

creating the SMS message indicating the ticket sale information in the public wireless switch and transmitting the SMS message to the mobile terminal via the public wireless communication network in response to the request for the creation of the SMS message indicating ticket sale information.

9. A method comprising:

running a ticket purchase application program adapted to display a user authentication screen;

transmitting this user authentication information to a betting ticket purchase system via a mobile communication system after a user enters user authentication information in the authentication screen;

receiving results of user authentication from the betting ticket purchase system, and displaying all of the optional items for a ticket purchase on a single screen when the user authentication succeeds;

transmitting set ticket purchase information to the mobile communication system after a user has set all of the optional items displayed on the single screen; and

receiving and sequentially displaying an SMS message indicating ticket sale information according to the ticket purchase information and a SMS message indicating winning information according to results of a race from the betting ticket purchase system.

10. A method comprising:

2 running a ticket purchase application program in mobile terminal to transmit user  
3 authentication information to an ARS sale server through a wireless network system;

4 receiving and authenticating the user authentication information in the ARS sale server and  
5 transmitting the results of the user authentication to the mobile terminal through the wireless  
6 network system;

7 displaying all optional items on a single screen of the mobile terminal after the user  
8 authentication has been completed, and transmitting set ticket purchase information to a ticket sale  
9 processing system through the wireless network system and the ARS sale server after the user has  
10 set all of the optional items;

11 selling a betting ticket in the ticket sale processing system according to the ticket purchase  
12 information and transmitting ticket sale information to the ARS sale server after ticket purchase  
13 information has been received from the mobile communication terminal via a public wireless  
14 network;

15 storing the ticket sale information in the ARS sale server and transmitting a request for  
16 creation of a SMS message indicating ticket sale information to the wireless network system after  
17 receiving the ticket sale information; and

18 creating and transmitting the SMS message from the wireless network system to the mobile  
19 terminal indicating the ticket sale information in response to the request for the creation of the  
20 SMS message indicating the ticket sale information.

1 11. A system comprising:

an ARS ticket sales server adapted to transmit a request for a ticket purchase according to ticket purchase information to a betting ticket sale system in response to receiving the ticket purchase information through a mobile terminal, and to transmit a request to create an SMS message indicating ticket sale information in response to the ticket sale information received from the betting ticket sale system; and

a wireless data transmission and reception network adapted to provide the ticket purchase information, transmitted from the mobile terminal via the wireless network, to the ticket sales server, to create an SMS message indicating the ticket sale information in response to a request for creation of the SMS message indicating the ticket sale information, and to transmit the SMS message to the mobile terminal via the wireless network.

12. The system according to claim 11, wherein the wireless network is one of a private or public wireless network.

13. The system according to claim 11, wherein the wireless data transmission and reception network is one of private and public wireless switching systems, each including an SMS message creation unit.

14. The system according to claim 11, wherein the ticket sales server comprises:  
a wireless network-interworking API adapted to change received and transmitted data formats;

4 an authentication unit adapted to perform user authentication for a ticket purchase; and  
5 a storage unit adapted to store the ticket purchase information and the ticket sale  
6 information transmitted from the betting ticket sale system.

1 15. A system comprising:

2 a wireless network-interworking API, included with an ARS server of an ARS system, and  
3 adapted to convert ticket purchase information into data having a format appropriate to the ARS  
4 server in response ticket purchase information received from a mobile terminal, to transmit a  
5 request for a ticket purchase corresponding to the converted ticket purchase data to a ticket sale  
6 processing system, and to transmit a request for creation of a SMS message indicating ticket sale  
7 information in response to receiving the ticket sale information from the ticket sale processing  
8 system; and

9 a wireless data transmission and reception network adapted to provide the ticket purchase  
10 information, transmitted from the mobile terminal via the wireless network, to the wireless  
11 network-interworking API, and to create an SMS message indicating the ticket sale information  
12 in response to a request for the creation of the SMS message transmitted from the wireless  
13 network-interworking API, and to transmit the SMS message to the mobile terminal via the  
14 wireless network.

1 16. The system according to claim 15, wherein the ARS server comprises:

2 an authentication unit adapted to perform user authentication; and

3 a storage unit adapted to store the ticket purchase information and the ticket sale  
4 information transmitted from the betting ticket sale processing system.

1 17. A mobile terminal comprising:

2 a ticket purchase application program module adapted to display a user authentication  
3 screen in response to running a ticket purchase application program and adapted to display a ticket  
4 purchase screen, including all optional items to enable a user to set all of the optional information  
5 for a ticket purchase, in response to a completion of a user authentication; and

6 a wireless data transmission and reception module adapted to transmit user authentication  
7 information and ticket purchase information to a betting ticket sale system, and to receive an SMS  
8 message indicating ticket sale information and a SMS message indicating winning information  
9 from the betting ticket sale system via a wireless communication network.

1 18. The mobile terminal according to claim 17, wherein the ticket purchase screen  
2 displayed by the ticket purchase application program includes at least one of a regional option  
3 field, a race number option field, a winner determination option field, a horse number option field  
4 and a betting amount option field.

1 19. The mobile terminal according to in claim 18, further comprising:

2 an additional betting button adapted to enable the user to additionally purchase a betting  
3 ticket after all of the optional items have been set on the ticket purchase screen displayed by the



4 ticket purchase application program; and

5 a temporary data storage unit adapted to temporarily store previously set ticket purchase  
6 information in response to the additional betting button being pushed and additional ticket  
7 purchase information being set.